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ABSTRACT

Alternatives to the face-to-face supervision of home economics student teachers through the use of audiotapes and teleconferences were explored in this three-phase (academic quarter) study. Information was gathered about attitudes of participants toward the teleconference, changes in abilities to formulate written teaching plans, and changes in the pattern of classroom interaction when both of these changes are the focal point of feedback using normal supervisory procedure or the teleconference, and relative cost and personnel time involved in providing supervision through normal on-site procedures or the teleconference. Teaching centers to which the students were assigned were designated as control (on-site) or experimental (teleconference). Both groups received normal on-site supervision early in the quarter. Following this, each student submitted an audiotape recording of a class taught and the corresponding lesson plan. The experimental group participated in a teleconference in lieu of the second on-site visit received by the control group. Finally, all student teachers submitted a second audiotape and lesson plan. The findings revealed positive reactions to the teleconference, slight variations in lesson plans and classroom interaction between groups, and financial savings and fewer working hours with the teleconference. (JH)

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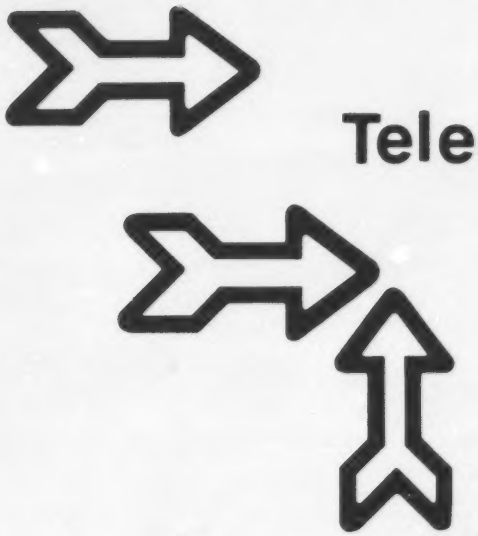

The Teleconference

A Supervisory Procedure in Educational Clinical Experiences

Helen H. Henrie and
Emma B. Whiteford

DEPARTMENT OF HOME ECONOMICS EDUCATION
UNIVERSITY OF MINNESOTA

February 1972

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Helen Henrie and Emma Whiteford

SUMMARY

An increasing problem in teacher education is the mounting costs of providing supervision of clinical experiences in settings which ensure an experience of acceptable quality. This study was designed to explore possible alternatives to the usual face-to-face supervision by utilizing audio tapes of classroom teaching and teleconferences.

Each phase of the three phase study (conducted over a period of three academic quarters) was designed to provide information about (a) attitudes of participants toward the teleconference, (b) change in ability to formulate written plans for teaching when such plans are the focal point of feedback using normal supervisory procedures or the teleconference, (c) differences in the pattern of classroom interaction when such interaction is the focal point of feedback using normal supervisory procedures or the teleconference, (d) relative cost (non-personnel) of normal on-site procedures and the teleconference, and (e) relative personnel time involved in providing for supervision through normal on-site procedures and the teleconference.

The same general design was utilized in each of the three phases (academic quarters) of the study. During each quarter students were assigned to their teaching center and supervising teacher on the basis of facilitating an efficient match of students and supervising teachers. The teaching centers were then designated as control (on-site) or experimental (teleconference).

Each teacher in both experimental and control groups received normal on-site supervision early in the quarter. Following this, each student teacher submitted an audio tape recording of a class she taught and the corresponding written lesson plan. Student teachers in the experimental group participated in the teleconference in lieu of the second on-site visit. Finally, all student teachers submitted a record audio-tape and corresponding written lesson plan. Limited modifications in general procedures (related to the development of communication skills) were incorporated in each phase of the study.

Inferences from the data were not attempted due to the small size of the experimental population and lack of complete randomization of assignment to treatment groups. However, findings did reveal that (a) subjective reactions to the teleconference were generally positive, (b) only slight variations were identified on the written lesson plans between the control and experimental groups, (c) only slight variations in patterns of classroom interaction were noted between the groups, (d) the difference between teleconference costs and on-site visitation costs varied with distance from the University, but the teleconference resulted in consistent financial savings, and (e) fewer working hours were required using teleconference than through the on-site procedure.

The investigators recommend that the teleconference should be implemented on a wider scale incorporating the following changes suggested by the

participants of the study: (a) an increase in student participation time, (b) the employment of devices which focus the discussion, and (c) the reduction in time devoted to discussion of a general nature. At the same time, objective evidence of the relative effectiveness of the teleconference procedure with on-site visitations should continue to be sought.

INTRODUCTION

Background of the Problem

Direct teaching experience in a variety of forms has usually been incorporated in programs designed to prepare teachers. Research efforts have not yet clearly demonstrated the contribution of these supervised experiences, but they are assumed to play a significant role in the development of competent instructors.

A recent publication of the Association of Student Teaching, which had as a focus the improvement of laboratory experiences in education, identified the following concerns: (a) the lengthening of time involved in student teaching experiences, (b) increasing enrollment, (c) lack of well qualified supervising teachers, and (d) continuous turnover of college supervisors of student teaching. These have combined to make the issues of control, quality, and finance critical. Concern for the placement and supervision of home economics student teachers at the University of Minnesota recently has been increased by these same factors.

At Minnesota, the student teaching experience in home economics education occurs during the senior year and consists of a full-day assignment for a ten to eleven week period. Placement of student teachers in teaching centers that reflect sound educational practice and supervision of the students are vital facets of the home economics education student teaching program.

In order to provide a broad range of experiences in a variety of school settings with experienced and capable teachers, it has been necessary to utilize schools located at some distance from the Twin Cities campus. Efforts to group schools geographically have helped to maximize the services which can be provided by the University supervisors. Typically, however, a supervisor visits several teaching centers located at some distance from each other and the University. The time involved in travel somewhat curtails the range of on-campus responsibilities that can be assumed in combination with supervision and also limits the number of student teachers who may be supervised by one faculty member.

The typical pattern of supervisory activities has been to make two supervisory visitations of one full day each to every student teacher. The activities which usually occur on the day of supervision are: (a) observation of the student teacher in one or more classroom situations, (b) review and evaluation of written plans and other teaching materials, and (c) a conference with the student teacher at which time feedback regarding performance is given and other matters of concern are discussed with the inclusion of the supervising teacher, if possible.

Advantages and disadvantages of this pattern of supervision may be cited. The University supervisor is able to observe samples of performance on a first hand basis and can provide immediate corrective and informational feedback to the student teacher. Observations and materials associated with teaching can also provide a common referent for the purpose of discussion by the supervising teacher, student teacher, and the University supervisor. Student teachers and supervising teachers frequently indicate that the visit of the University supervisor gives them an opportunity to raise certain kinds of questions which the supervisor is best qualified to discuss. In some instances, the student teacher may need the reassurance which can come from exploring problems, ideas and fears with an individual who has come to know her in another setting, namely the University classroom. The contact with the secondary school is also a valued experience for the University supervisor.

On the other hand, the pace of the day's activity, the environmental conditions under which conferences must sometimes be held, and the complexity of the task of providing accurate feedback with a limited amount of time for study and reflection may all limit to some degree the effectiveness of supervisory activities. Typically, conferences with student teachers are held following observations of teaching, examination of written plans and other evidence of student performance. Under these stress conditions, the emotional and mental state of the student teacher may deter full acceptance and utilization of feedback. In addition, the number of student teachers assigned to a University supervisor is increasing and seems to indicate that if contact with the teaching center and student teacher is to be maintained, modification in supervisory practice may be in order.

Statement of the Problem

In view of these factors, several members of the faculty in the Home Economics Education Department were involved in designing a study which incorporated the use of selected procedures to modify and augment the usual face-to-face supervisory practices. The purpose of the study was to maintain the supervisory activities related to the student teaching program but to explore possible changes which might occur when face-to-face supervision is augmented with audio-tapes of classroom teaching and with teleconferences.

The teleconference may be described as a means of enabling a group of persons at different locations to discuss issues of mutual concern through the use of amplified voice equipment connected with regular telephone circuits. Both sets of individuals can hear all that is taking place and can respond freely to any comment.

The study was carried out in three phases over a period of three quarters consisting of approximately eleven weeks each. Each phase of the study was designed to provide information related to the following specific questions:

1. What are the attitudes of participants towards the teleconference as a supervisory procedure?

2. Is there any pattern of change in the formulation of written lesson plans when such plans are the focal point of feedback using normal on-site supervisory procedures or the teleconference?

3. Is there any difference in the pattern of classroom interaction when such interaction is the focal point of feedback using normal on-site supervisory procedures or the teleconference?

4. What is the relative direct cost (non-personnel) of normal on-site procedures and the teleconference?

5. What is the relative personnel time involved in providing for supervision through normal procedures and the teleconference?

PROCEDURES

Population and Sample

The population and sample for each of the three phases of the study consisted of all the students who had registered for student teaching in Home Economics Education during each of three quarters. In order to generate information related to the time and money involved in providing supervision through the on-site procedure and the teleconference, experimental (teleconference) teaching centers were designated on the basis of geographic location and then students were assigned to teaching centers. The assignment of students to experimental and control teaching centers was not random. It was based on facilitating the most efficient match of student and supervising teachers. Table 1 presents the data related to population size and assignment to experimental (teleconference) and control groups.

TABLE 1

POPULATION AND SAMPLE

Phase of Study	Experimental Group		Control Group	
	Student Teachers	Supervising Teachers	Student Teachers	Supervising Teachers
Phase One	7	7	8	8
Phase Two	9	9	13	13
Phase Three	13	13	18	18
TOTAL	29	29	39	39

Design of the Study

The general procedure which was carried out during the three phases of the study was similar. Each student teacher in both experimental and control groups was visited early in the quarter by her University supervisor. The supervisory activities carried out followed the pattern previously described.

In addition to the normal supervisory activities, the University supervisors alerted student teachers in the experimental group to the arrangements that had been made for the use of the teleconference. The cooperation of the school and supervising teachers had been previously solicited, but further clarification of specific plans was made at the time of the first visit.

By arrangement, the facilities of the Institute of Agriculture, Forestry, and Home Economics were used by the University supervisors for the teleconferences. The telephone equipment which was needed to carry out the teleconferences was installed in the experimental teaching centers. Student teachers and supervising teachers in the experimental group met in these centers and utilized the equipment at the time which had been designated for the teleconference.

A portion of the discussion time in the teleconference was devoted to providing feedback related to the audio tapes and corresponding written lesson plans. These materials were prepared by each student teacher in both the experimental and control groups following the first on-site supervisory visit. Feedback to the control group was provided as part of the second on-site supervisory visit.

Opportunity was also provided during the teleconference for the student teacher and supervising teacher to discuss questions of concern with the University supervisors and then time was allocated for the student to confer with her University supervisor either alone or with the supervising teacher. Student teachers in the experimental group received no further supervision following the teleconference. (See Appendix A for the teleconference plan for Phase One and Phases Two and Three.) After the second on-site visit (control group) and the teleconference (experimental group), all student teachers submitted an audio tape and corresponding written lesson plan. Table 2 presents the sequence of treatment for Phase One.

TABLE 2

SUMMARY OF SEQUENCE OF TREATMENT FOR PHASE ONE

Group	Stage 1	Stage 2	Stage 3	Stage 4
Control	Normal supervisory procedure (on-site)	Submission of first audio tape & written lesson plan	Normal supervisory procedure (on site)	Submission of second audio tape & written lesson plan
Experimental	Normal supervisory procedure (on site)	Submission of first audio tape & written lesson plan	Teleconference	Submission of second audio tape & written lesson plan

During the second and third phases of the study, certain modifications in the sequence and nature of the treatment stages were adopted. These modifications and the stages to which they relate are presented in Table 3. Within the modified sequence presented in Table 3, further changes were made in the conduct of the teleconference itself. These modifications in the teleconference procedures used by the experimental groups are summarized in Table 4.

TABLE 4

COMPARISON OF TELECONFERENCE PROCEDURES EMPLOYED WITH EXPERIMENTAL GROUPS IN STAGE FIVE OF PHASES TWO AND THREE:

Phase of Study	Modification of Teleconference Procedures	
Phase Two	Teleconference supervision focused on specific aspect of teaching. Critique form and specific teleconference plan employed (see Appendix A and B).	Panel of three or more University supervisors utilized to provide feedback.
Phase Three	(As above)	Teleconference supervision utilizing the assigned University supervisor and one other University supervisor chosen by the student teacher and the supervising teacher

Data Collection

Data related to the attitudes of the various participants toward the teleconference were gathered by means of a questionnaire adapted from an instrument used in the evaluation of telelecture programs at the University of Minnesota. The instrument was mailed to participants. The same instrument was used in all phases of the study. (See Appendix C.)

A second instrument was adapted from a study by Walter A. Cameron and Calvin J. Cotrell, entitled Assessment of Micro-teaching and Video-recording in Vocational and Technical Teacher Education: Phase X Remote Feedback Techniques for In-service Education. This instrument was utilized in Phases Two and Three of the study to further assess attitudes toward the teleconference and related procedures. (See Appendix D.)

Data related to lesson planning skills were collected by means of a rating device which had been developed by the Home Economics Education Department for the assessment of written lesson plans for teaching. The two forms of the device used are shown in Appendix E. To retain the anonymity of the written lesson plans, scales number 4 and 5, usually used in judging daily plans, were

TABLE 3

SUMMARY OF MODIFIED TREATMENT FOR EXPERIMENTAL GROUPS DURING PHASES TWO AND THREE

Group	Stage 1	Stage 2	Stage 3	Stage 4	Stage 5	Stage 6
Experimental Phase 2	Pre-student teaching meeting of student teachers, supervising teachers and University supervisors. Focus of meeting on communication skills.	Normal supervisory procedures (on-site)	Submission of first audio tape & written lesson plan.	1 1/2 day on-campus conference of student teachers and University Supervisors. Partial focus on communication related to student teacher concerns.	Modified Teleconference	Submission of second audio tape & written lesson plan.
Control	(As above)	Normal supervisory procedures (on-site)	Submission of first audio tape & written lesson plan.	(As above)		Submission of second audio tape & written lesson plan.
Experimental Phase 3	Pre-student teaching meeting of student teachers, supervising teachers and University supervisors. Focus of meeting on communication skills.	Normal supervisory procedures (on-site)	Submission of first audio tape & written lesson plan.	(No treatment)	Modified Teleconference	Submission of second audio tape & written lesson plan.
Control	(As above)	Normal supervisory procedures (on-site)	Submission of first audio tape & written lesson plan.	(No treatment)		Submission of second audio tape & written lesson plan.

omitted. (If judgment is to be made using these criteria, information is also needed regarding the pupils, school, and community. It was felt that revealing this information would also act to identify the author of the plan and might influence the rating.) The University supervisors involved in the supervision of student teachers during the quarter when Phases One, Two and Three were carried out rated each written lesson plan which had been submitted. Four University supervisors participated during each phase of the project. The same individuals participated in Phases Two and Three, but two persons in Phase One did not participate in Phases Two and Three.

Data related to the pattern of classroom interaction was collected using the following procedures: a) two, seven-minute segments of classroom verbal interaction were randomly selected from each audio-tape submitted; b) each seven-minute segment was coded using the "Revised Verbal Interaction Category System" (see Appendix F for instrument); c) the coder was first trained using a series of sample training sessions, and the reliability of her coding was estimated using "test-retest" procedures on teaching tapes not included as part of the data. The same individual coded all of the tapes in Phase One; another individual coded all of the tapes used in Phases Two and Three.

Data concerning the amount of time and money required to provide supervision was based on the first on-site supervisory activity carried out with the experimental group and on the second supervisory contact with the same group carried out through the teleconference. An accurate record of the expenses incurred was kept for all phases of the study. The amount of time involved in providing supervision by the two techniques was estimated during Phase One, but a specially designed self-report was utilized for that purpose in Phases Two and Three.

Analysis of the Data

Due to the limited size of the experimental population and the lack of complete randomization, inferences were not attempted. Data gathered from the opinionnaire were summarized in terms of percentage of various responses and syntheses of ideas expressed in the free response items. Data collected through the rating of written lesson plans were described in terms of mean scores, as they related to the total plans and to the several parts of the plan. Data collected through the use of "Revised Verbal Interaction Categories" were described in terms of percentage of "talk" in various categories and ratios of "type of talk". Finally, costs in terms of both time and dollars were presented.

FINDINGS

Question 1: What are the attitudes of the participants toward the teleconference as a supervisory procedure?

All participants in Phase One of the teleconference project indicated that it was their initial experience with the procedure and associated

technology. A majority of the supervising teachers and student teachers who participated in the second and third phases gave the same report. All of the University supervisors in the second and third phases indicated that they had previous experience with the teleconference procedure.

The evaluation of the teleconference in general ranged from a "liked very much" rating to an expressed "dislike". One hundred percent of the University supervisors gave the teleconference a positive evaluation. Approximately eighty percent of the supervising teachers were also positive in their evaluation. Slightly more than sixty percent of the student teachers were also affirmative in their evaluation of the teleconference. During Phase One, affirmative ratings were highest among University supervisors, followed by supervising teachers and student teachers, in that order. In Phase Two, the highest affirmative ratings were also given by University supervisors, but were followed by student teachers and then supervising teachers. In Phase Three, the pattern for supervising teachers and student teachers was similar to Phase One.

The majority of all respondents reported that the telephone equipment and other associated technology functioned in an acceptable manner. However, in each phase of the project, several supervising teachers and student teachers indicated that spontaneity of communication was somewhat limited due to inadequate functioning of the transmitter mechanism which had been installed in the teaching center.

Respondents in Phase One suggested that less time be devoted to preliminaries and that more time be provided for examination of the central theme of the teleconference. A majority of the participants recommended that plans for utilization of actual teleconference time be made specific by (a) indicating topics for consideration, and (b) outlining procedures for the utilization of the time allotted to a chosen topic. For Phases Two and Three, therefore, the plan for the teleconference was modified to employ devices for focusing the discussion. As a result, all of the student teachers and University supervisors in Phase Two reported that they found the written plan describing the format of the teleconference helpful. Student teachers in Phase Three were also in agreement with this rating. The majority of the supervising teachers involved in Phases Two and Three also agreed with the positive rating of the plan for the teleconference.

In regard to the use of the critique form and audio tape, approximately seventy percent or more of the supervising teachers and student teachers in Phases Two and Three of the study indicated that the use of audio tapes, critique forms and associated discussion through teleconference were helpful in the following respects: (a) viewing a sample of classroom teaching objectively, (b) encouraging efforts to work on self-improvement in teaching, and (c) identifying good and poor points in teaching.

Less than twenty percent of the supervising teachers and student teachers reported they found the procedure frustrating or that it required too much time for the benefits received.

Approximately fifty-five percent of the student teachers and supervising teachers reported that the procedure did not provide a true picture of the student teacher's ability as it related to classroom interaction.

Approximately fifty percent of the student teachers felt they did not receive enough instruction or feedback from the University supervisor through the use of the method. Approximately the same percentage of supervising teachers indicated that feedback had been sufficient. On the other hand, less than twenty percent of the student teachers and supervising teachers indicated that the method was unsatisfactory for their situation.

In regard to the utilization of time during the teleconference, a majority of all respondents in the three phases of the study reported that the amount of time provided was satisfactory. In making recommendations for the improvement of the teleconference, however, the following suggestions were made with greatest frequency: (a) devote more time to the conference between the Univeristy supervisor, student teacher and supervising teacher, (b) schedule more total time for teleconference, (c) schedule fewer than three student teachers and supervising teachers for a 1 1/2 hour conference, and (d) devote less time to the consideration of topics of a general nature. (These suggestions seem consistent with the participants' desire for greater amounts of instruction and feedback.)

Question 2: Is there any pattern of change in the formulation of written lesson plans when such plans are the focal point of feedback using normal on-site supervisory procedures or the teleconference?

The findings for each phase of the study are summarized in Tables 5, 6, and 7.

In Phase One, the rating device which was used consisted of twenty scales from which two scales were omitted. In Phases Two and Three the original twenty scales were reduced to fourteen.

No sizable gains or losses were made in total or part score ratings of the experimental group in any phase of the study. The only noticeable changes were decreases in the scores of the control group after their treatment in Phases Two and Three. It is possible that lack of instrument reliability may be a factor contributing to this decrease, but it is also possible that the control treatment somehow reduced the importance of lesson plan writing in the minds of the student teachers.

Question 3: Is there any difference in the pattern of classroom interaction when such interaction is the focal point of feedback using normal on-site supervisory procedures or the teleconference?

The figures in Appendix G present data related to this question.

When pre-treatment and post-treatment data are compared within either the control or experimental groups, only very slight variations in percentages of types of talk are noted. The same conclusion is apparent when data are compared between groups. The variations which occurred did not appear to be educationally significant.

TABLE 5

RATINGS OF WRITTEN LESSON PLANS: PHASE ONE

Item	Maximum Rating Possible	Experimental (N-6) Pre-treatment	Post-treatment	Difference	Control (N-7) Pre-treatment	Post-treatment	Difference
Total Lesson Plan	78	$\bar{X}$ = 52.71	52.21	- .50	49.14	49.93	.79
Lesson Objectives	21	$\bar{X}$ = 15.67	16.50	.83	14.29	15.46	1.17
Lesson Content	19	$\bar{X}$ = 14.08	12.71	-1.37	12.29	12.58	.29
Lesson Learning Exp.	18	$\bar{X}$ = 12.96	13.29	.33	13.25	12.46	- .79
Lesson Evaluation	10	$\bar{X}$ = 4.67	3.67	-1.00	5.18	4.71	- .47
Lesson Intro.	5	$\bar{X}$ = 3.08	3.08	.00	2.54	2.71	.17
Lesson Summary	5	$\bar{X}$ = 2.42	2.13	- .29	1.64	2.39	.75

TABLE 6

RATINGS OF WRITTEN LESSON PLANS: PHASE TWO

		Experimental (N-9)			Control (N-11)		
Total Lesson Plan	60	$\bar{X}$ = 34.11	35.05	.94	35.02	29.40	-5.62
Lesson Objectives	10	$\bar{X}$ = 7.06	6.73	- .33	7.38	6.20	-1.18
Lesson Content	15	$\bar{X}$ = 9.35	9.26	- .09	9.39	7.93	-1.46
Lesson Learning Exp.	15	$\bar{X}$ = 9.18	9.78	.60	9.63	8.20	-1.43
Lesson Evaluation	10	$\bar{X}$ = 4.12	4.35	.23	4.11	3.68	- .43
Lesson Intro.	5	$\bar{X}$ = 2.86	2.92	.06	3.40	2.11	-1.29
Lesson Summary	5	$\bar{X}$ = 1.53	2.01	.48	1.11	1.31	.20

TABLE 7

RATINGS OF WRITTEN LESSON PLANS: PHASE THREE

		Experimental (N-9)			Control (N-13)		
Total Lesson Plan	60	$\bar{X}$ = 32.35	33.67	1.32	35.85	32.69	-3.16
Lesson Objectives	10	$\bar{X}$ = 6.73	6.71	- .02	7.33	6.54	- .79
Lesson Content	15	$\bar{X}$ = 8.84	8.52	- .32	10.07	8.71	-1.36
Lesson Learning Exp.	15	$\bar{X}$ = 8.62	8.76	.14	9.91	8.71	-1.20
Lesson Evaluation	10	$\bar{X}$ = 3.92	4.13	.21	3.00	3.88	.88
Lesson Intro.	5	$\bar{X}$ = 2.90	3.48	.58	2.80	2.64	- .16
Lesson Summary	5	$\bar{X}$ = 1.33	2.08	.75	1.73	1.70	- .03

For Phases Two and Three, the procedure for the teleconference was modified to pay particular attention to the role of questioning as it effects the pattern of classroom interaction. (Columns C and F in Appendix G present the data related to questions asked and student responses.) A comparison of pre-treatment with post-treatment data within the control and experimental groups indicate no appreciable variations. A similar conclusion is evident when data are compared between groups. Variations which did occur in regard to utilization of questioning did not seem educationally significant.

Question 4: What is the relative direct cost (non-personnel) of normal on-site procedures and the teleconference?

The complete data related to this question for the three phases of the study appear in Table 8.

TABLE 8

SUMMARY OF EXPENSES INCURRED THROUGH PROVISION OF NORMAL SUPERVISION AND TELECONFERENCE

Phase	Number of students supervised	Supervision on-site	Teleconference
Phase One	7	$176.39	$163.83
Phase Two	9	188.14	123.80
Phase Three	13	295.55	159.90
Total	29	$660.08	$447.53
Average cost per Student		$ 22.76	$ 15.43

The evidence presented in Table 8 reveals the reduced direct cost of providing the three sets of teleconference experiences.

A directly related question is the relative direct cost of the two methods of supervision when variation in distance of the teaching center from the University is considered. Tables 9 and 10 present this data. The on-site costs include lodging, meals and travel which were incurred in the provision of supervision as it normally occurs. Teleconference costs include installation of equipment, long distance charges, mileage and meals for participants who travel and technician charges.

TABLE 9

EXPENSES INCURRED TO PROVIDE SUPERVISION THROUGH ON-SITE PROCEDURE AND TELECONFERENCE AS RELATED TO DISTANCE OF TEACHING CENTER FROM THE UNIVERSITY: PHASE TWO

Round Trip Distance from University	Number of Students Served	On-Site Costs	Teleconference Costs
300-350 miles			
Location 1	1	$63.02	$28.94
Location 2	1	37.15	
100-200 miles			
Location 3	2	13.90	32.46
Location 4	1	28.22	26.25
Location 5	1	37.95	25.15
00 to 50 miles			
Location 6	1	3.90	11.00
Location 7	2	4.00	
TOTAL	9	$188.14	$123.80

TABLE 10

EXPENSES INCURRED TO PROVIDE SUPERVISION THROUGH ON-SITE PROCEDURES AND TELECONFERENCE AS RELATED TO DISTANCE OF TEACHING CENTER FROM THE UNIVERSITY: PHASE THREE

Round Trip Distance from University	Number of Students Served	On-Site Costs	Teleconference Costs
300-350 miles			
Location 1	2	$62.19	$11.15
Location 2	1	45.18	17.92
Location 3	1	28.55	12.74
Location 4	1	22.95	8.15
Location 5	1	36.65	10.65
100-200 miles			
Location 6	2	9.20	10.42
Location 7	1	11.10	7.40
Location 8	1	13.20	22.94
Location 9	1	11.30	19.45
Location 10	1	30.90	19.40
Location 11	1	24.33	19.68
TOTAL	13	$295.55	$159.90

From the data it is apparent that the teleconference costs are influenced by several factors: (a) when student teaching centers are located at distances which require that the University supervisor must be lodged away from home for one or more nights, the teleconference procedure results in savings. This is true whether or not the teleconference includes more than one student teacher in a given area; (b) the teleconference procedure results in a comparable cost when the student teaching center is located within a working day's travel distance from the University, and requires that long distance rates be paid for the use of the telephone; and (c) the teleconference procedure results in a comparable cost even when student teaching centers are located within the local-call radius provided that the centers are grouped geographically and more than one student teacher can be served through one set of equipment.

Question 5: What is the relative personnel time involved in providing for supervision through normal procedures and the teleconference?

Data related to this question are presented in Tables 11 through 16. The units of time are rounded off to the nearest full hour.

TABLE 11

ESTIMATED TIME UTILIZED TO PROVIDE SUPERVISION THROUGH NORMAL PROCEDURES: PHASE ONE

Participants	N	Travel	Preparation	Participation	Total Hours	Lay-Over
University Superv.	3	29 hrs	11 hrs	42 hrs	82	5 nights
Supervising Teacher	7	None	11 hrs	11 hrs	22	None
Student Teacher	7	None	21 hrs	25 hrs	46	None
TOTALS	17	29 hrs	43 hrs	78 hrs	150	5 nights

TABLE 12

ESTIMATED TIME UTILIZED TO PROVIDE SUPERVISION THROUGH THE TELECONFERENCE: PHASE ONE

Participants	N	Travel	Preparation	Participation	Total Hours	Lay-Over
University Superv.	5	1 hr	40 hrs	7 hrs	48	None
Supervising Teacher	7	5 hrs	14 hrs	11 hrs	34	4 hrs
Student Teacher	7	5 hrs	28 hrs	11 hrs	48	4 hrs
TOTALS	19	11 hrs	82 hrs	29 hrs	130	8 hrs

TABLE 13

REPORTED TIME UTILIZED TO PROVIDE SUPERVISION
THROUGH NORMAL PROCEDURES: PHASE TWO

Participants	N	Travel	Prepar-ation	Partic-ipation	Contingent	Total Hours	Lay-Over
Univ. Supv.	3	33 hrs	17 hrs	62 hrs	3 hrs	115	5 nights
Supv. Teacher	4	None	4 hrs	10 hrs	1 hr	15	None
Stu. Teacher	6	None	6 hrs	41 hrs	2 hrs	49	None
TOTALS	13	33 hrs	27 hrs	113 hrs	6 hrs	179	5 nights

TABLE 14

REPORTED TIME UTILIZED TO PROVIDE SUPERVISION
THROUGH THE TELECONFERENCE: PHASE TWO

Participants	N	Travel	Prepar-ation	Partic-ipation	Contingent	Total Hours	Lay-Over
Univ. Supv.	3	4 hrs	33 hrs	2 hrs	1 hr	40	None
Supv. Teacher	4	2 hrs	8 hrs	3 hrs	2 hrs	15	None
Stu. Teacher	6	2 hrs	17 hrs	16 hrs	5 hrs	40	None
TOTALS	13	8 hrs	58 hrs	21 hrs	8 hrs	95	None

TABLE 15

REPORTED TIME UTILIZED TO PROVIDE SUPERVISION
THROUGH NORMAL PROCEDURES: PHASE THREE

Participants	N	Travel	Prepar-ation	Partic-ipation	Contingent	Total Hours	Lay-Over
Univ. Supv.	4	43 hrs	12 hrs	88 hrs	1 hr	144	8 nights
Supv. Teacher	7	4 hrs	7 hrs	21 hrs	4 hrs	36	None
Stu. Teacher	11	1 hr	26 hrs	70 hrs	4 hrs	101	None
TOTALS	22	48 hrs	45 hrs	179 hrs	9 hrs	281	8 nights

TABLE 16

REPORTED TIME UTILIZED TO PROVIDE SUPERVISION
THROUGH THE TELECONFERENCE: PHASE THREE

Participants	N	Travel	Prepar-ation	Partic-ipation	Contingent	Total Hours	Lay-Over
Univ. Supv.	4	2 hrs	28 hrs	14 hrs	1 hr	45	None
Supv. Teacher	7	3 hrs	15 hrs	14 hrs	2 hrs	34	None
Stu. Teacher	11	4 hrs	24 hrs	24 hrs	5 hrs	57	None
TOTALS	22	9 hrs	67 hrs	52 hrs	8 hrs	136	None

A comparison of the time required to provide supervision through the two procedures as carried out in Phase One indicates that twenty fewer working hours were required using the teleconference than through the on-site procedure. In addition, the five evenings of lay-over time were saved. This saving of time occurred when a team of three or more University supervisors were involved in each teleconference.

A comparison of the time required to provide supervision through each procedure in Phases Two and Three indicates that eighty-four hours and one hundred forty-five hours, respectively, were saved through the teleconference procedure. In addition, five nights and eight nights, respectively, of lay-over time were saved through the teleconference. The time saving would appear to be significant. In each phase of the study, by far the greatest saving of time occurred to the University supervisor.

CONCLUSIONS AND DISCUSSIONS

The conclusions are based on the findings as they relate to each of the five questions posed in the study. Because of the lack of randomization and limited population sizes, no attempt is made to generalize beyond the sample.

1. The data indicate that the subjective reaction to the teleconference was generally positive. The University supervisors were most favorable, followed by the supervising teachers, and the student teachers, respectively. Because of increasing diversity of professional responsibilities, the University supervisors and supervising teachers may be seeking more expeditious means of fulfilling their supervisory responsibilities. Consequently, convenience and time saved may account for their more favorable reactions. On the other hand, student teachers have developed certain expectations about face-to-face supervisory relationships. These expectations, coupled with their concern for success in a highly significant, new professional experience, may predispose them to a less favorable reaction.

2. The teleconference did not improve the lesson plans written by student teachers. On the other hand, there is a possibility that normal supervisory procedures may have reduced the student teachers' motivation to prepare written lesson plans. The conclusions may have resulted from one of the following limitations of the study: (1) the relatively small emphasis placed upon the formulation of written lesson plans in comparison with other aspects of student teaching; (b) the rating instrument may not be adequately sensitive and comprehensive; and (c) the raters may not have been sufficiently discriminating in their use of the device.

3. Neither supervisory procedure had an appreciable impact upon classroom interaction patterns. This conclusion may be due to the limited samples of classroom interaction studied, or to the relatively small emphasis placed upon this aspect of teaching during the supervisory conferences.

4. The teleconference resulted in saving direct costs. The greatest savings accrue when the teleconference procedure is carried out with student teaching centers located at distances which require that the University supervisor be lodged one or more nights away from the University.

5. The teleconference results in a saving of time for all participants. The greatest saving of time accrues to the University supervisors.

RECOMMENDATIONS

The teleconference should be implemented on a wider scale, incorporating the changes suggested by the participants of this study: a) an increase in student participation time, b) the employment of devices which focus the discussion, and c) the reduction in time devoted to discussion of a general nature. At the same time, objective evidence of the relative effectiveness of the teleconference procedure with on-site visitations should continue to be sought. This recommendation presumes that there is presently no reason to believe that there is a real difference in the effectiveness of the two procedures, but that the teleconference is less costly and more convenient. Its greater relative efficiency therefore dictates broader application (with continued study) of the teleconference procedure.

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APPENDICES

APPENDIX A

PLANS FOR TELECONFERENCE

[Phase One]

TO: Teleconference Participants

In an attempt to make the teleconference a meaningful and helpful experience, some general plans have been developed. It is hoped that these plans may serve as guides in preparing for and participating in the conference.

I. There will be an orientation of all conference participants to the student teacher's experience as a classroom teacher.

   Each student teacher will want to briefly describe the teaching responsibilities she has had up to this point.

II. All conference participants will share in consideration of the teaching experience up to the time of the conference through the use of the mid-quarter evaluation device.

   A. Areas of strength and growth needs will be revealed through the mid-quarter evaluation.

   B. Questions will be raised by use of the device.

III. Time will be allocated for two-way conferences.

   We plan to allow time for two-way conferences between the University supervisor and the student teacher and supervising teacher. This would mean that all the other participants would leave the conference room while sub-conferences were taking place.

Conference participants may find it helpful to re-read the section in the student teaching handbook on conferences. The basic plan as developed gives some structure to the conference time.

[Appendix A, continued]

However, the choice of sub-topic and questions to be considered is left open. It is hoped that each student teacher will give thoughtful consideration to her own learning needs as she prepares for the conference. Supervising teachers and University supervisors will also want to be prepared to exchange ideas and contribute insights from their point of view as it relates to the student teacher's growth and development.

Yours truly,

Supervisors of Student Teaching
Mrs. Margaret Busch
Mrs. Helen Henrie
Mrs. Sue Reitan
Dr. Gwen Newkirk
Mrs. Ardell Wantoch

P.S. Thursday evening of last week, all of the University supervisors and Dr. Whiteford walked down to Coffey Hall to get a firsthand look at the teleconference equipment in operation. We are thoroughly enthused about the opportunity to use the teleconference as a new procedure in supervision. We hope that you will look on the teleconference as an experience in pioneering.

[Appendix A, continued]

Procedure and Plans for Teleconference
[Phase Two and Phase Three]

TO: Teleconference Participants:

In an attempt to make the teleconference a meaningful and helpful experience, the following plans have been developed. It is hoped that these plans can be useful in preparing for and participating in the teleconference.

Part I. There will be a brief introduction of the various participants at both teleconference locations (i.e. teaching center and St. Paul). (5 minutes)

Part II: There will be an examination of questioning as a teaching technique.

Pre-preparation: Each student teacher and supervising teacher is asked to listen to the audio tape which was prepared by the student teacher and complete the "Question Analysis Form" related to questioning.

University supervisors in attendance at the teleconference will have completed a similar process for each of the tapes received from the participating student teachers.

Discussion: It is suggested that dicussion during this part of the teleconference be related to:

A. Areas of strength in regard to the questioning skill of student teachers.
B. Areas in which growth is needed in regard to the questioning skill of student teachers.
C. Relationship of the written plan to the questioning skill.
D. Questions, comments and other thoughts which the examination of the questioning technique may have raised.

Leadership: Student teachers are asked to assume some leadership in the consideration of this topic.

Part III: There will be consideration of matters of concern to a particular student teacher and supervising teacher.

A. A three-way conference with the student teacher, supervising teacher and assigned University supervisor will be conducted.
B. A two-way conference between the University supervisor and student teacher and the University supervisor and supervising teacher will be held.

At the time when these sub-conferences are taking place all other participants at both locations will leave the conference area.

[Appendix A, continued]

Part IV: There will be a consideration and discussion of a selected topic.

The focus of the remainder of the teleconference will be on a topic selected by the University supervisors from among those submitted by the supervising teacher and student teacher.

Selected topic _____.

Yours truly,

Helen Henrie

APPENDIX B

Question Analysis Form
Working Draft

A question is an act of asking. Questioning by the teacher promotes directed activity and self-expression on the part of the student. Questioning in the classroom is a useful technique for getting students to practice and demonstrate a variety of types of thinking: stating of facts, recalling a selected idea, expressing an opinion, making a comparison, drawing conclusions, making judgements, proposing solutions, and/or defending a position. The effective use of questioning can increase the student's freedom of action, afford him more opportunities to express ideas and make him less dependent upon the teacher.

The following statements will be used to examine the teacher's questioning. If there is no evidence of the teacher's behavior relative to a statement, mark "no evidence." If there is evidence relative to the statement, check the space which best describes the behavior.	No Evidence	Seldom	Some of the Time	Frequently
Did the Teacher in the Lesson:				
1. State the question in a vocabulary appropriate to the students?	____	____	____	____
2. Ask questions which were short enough to be remembered by the students?	____	____	____	____
3. Phrase question to make the nature of the thought process desired clear? (For example: Compare the following menus in terms of caloric value)	____	____	____	____
4. Ask questions which would require:				
A. Recall or memory?	____	____	____	____
B. Convergent thinking?	____	____	____	____
C. Divergent thinking?	____	____	____	____
D. Evaluative thinking?	____	____	____	____

[Appendix B, continued]

	No Evidence	Seldom	Some of the Time	Frequently
5. Ask questions which required more than "yes" and "no" answers? (For example: Did the questions require the student to apply ideas, facts, principles to new situations)	____	____	____	____
6. Present questions in an orderly sequence?	____	____	____	____
7. Ask a question, pause to give students time to think about the question and then call on a student?	____	____	____	____
8. After calling on a student, provide time for the student to think about the question before requiring this response? (Before answering the question herself or calling on someone else)	____	____	____	____
9. Refrain from repeating the student responses? (For example: Did the teacher have the student repeat and clarify his response rather than repeating it herself)	____	____	____	____
10. Require the student to go beyond his first answers? (For example: Did the teacher encourage the student to expand ideas, back-up ideas with facts, give illustrations.)	____	____	____	____
11. Did the teacher bring other students into the discussion by getting them to respond to the first student's answers?	____	____	____	____

APPENDIX C

TO: Teleconference Participants

FROM: Supervisors of student teachers in Home Economics

The series of supervisory teleconferences have been completed and it is now time to reflect on your experience with the teleconference. We again ask for your cooperation in this phase of the project.

Enclosed you will find a short questionnaire and a rating scale which is to be completed and returned in the stamped, self-addressed envelope. Because the total number of persons involved in the teleconference is small, we hope that each individual will complete the instruments so that the results will reflect the feelings of the total group. Your ideas will help to serve as a guide in the further consideration of the teleconference as a supervisory method.

Reminder: If you have not returned the teleconference time report, will you please enclose it with the other instruments.

THANK YOU AGAIN

[Appendix C, continued]

Teleconference Assessment

Directions: Please circle the appropriate answer or complete the statement. Do not sign the questionnaire.

1. Select the phrase which indicates the number of times you have participated in a teleconference:
   A. one
   B. two - five
   C. six - ten
   D. ten or more

In each category indicate the total number of persons who were present at your site of the teleconference:

2. Student teachers
   A. 0
   B. 1
   C. 2
   D. 3
   E. 4

3. Supervisory teachers
   A. 0
   B. 1
   C. 2
   D. 3
   E. 4 or more

4. University supervisors
   A. 0
   B. 1
   C. 2
   D. 3
   E. 4 or more

5. Select the phrase which best describes your reaction to the teleconference you have just completed.
   A. liked it very much
   B. liked it fairly well
   C. liked it only slightly
   D. did not like it

6. The loud speaker volume was
   A. too high
   B. just right
   C. too low
   D. varied

[Appendix C, continued]

7. The loud speaker fidelity or clarity was
   A. excellent
   B. good
   C. barely acceptable
   D. unsatisfactory

8. Speaking into the transmitter mechanism was
   A. very easy and natural
   B. fairly easy and natural
   C. somewhat strained
   D. very difficult and unnatural

9. Concerning preparation for the teleconference, the written plan describing the procedure for the teleconference was
   A. very helpful
   B. somewhat helpful
   C. not helpful

10. The amount of time allowed for the teleconference in which I participated was
   A. too short
   B. about right
   C. just right
   D. too long

11. Indicate the approximate time which was scheduled for the teleconference in which you participated.
   A. Saturday
   B. immediately after school, 3:00-5:00
   C. evening, 6:30-8:00

12. Would some time of day other than the time scheduled for the teleconference have been more satisfactory for you? If so, when?

13. Indicate the date on which the teleconference you participated in took place.
   A. November 17
   B. November 23
   C. November 24
   D. December 1

14. Concerning the timing of the teleconference during the quarter, would you say it came
   A. too early
   B. too late
   C. at a satisfactory time

[Appendix C, continued]

15. Concerning the part of the teleconference devoted to discussion of topics of interest and concern to all participants, would you say the discussion was
    A. meaningful and helpful
    B. not meaningful or helpful
    C. extremely meaningful and helpful

16. Concerning the individual conferences of university supervisors with student teachers and supervisory teachers, would you say the conference met your needs
    A. only slightly
    B. to a significant degree
    C. to some degree

17. Concerning your feeling of freedom to speak and ask questions during the teleconference, would you say
    A. it was similar to feelings during face-to-face conversation
    B. somewhat more free than during face-to-face conversation
    C. much more restricted than during face-to-face conversation
    D. somewhat more restricted than during face-to-face conversation

18. Were there any things which you found particularly distracting about the teleconference?

19. What further comments or suggestions do you have about the teleconference as a method of supervision of student teachers?

20. Please check the category that applies to you.
    A. Supervisory teacher
    B. Student teacher
    C. University supervisor

APPENDIX D

Satisfaction Scale

The purpose of this rating scale is to allow you to rate statements which best describe your feelings of satisfaction and/or dissatisfaction with the use of audio tapes, the question analysis form and teleconference as a method of teacher education.

The term method as it is used in this rating scale refers to and includes the following phases of the teleconference:

1. Preparation of audio tape and lesson plan.
2. Listening to audio tape and analysis with question-analysis form.
3. Discussion of tape form and lesson plan during the teleconference.

When completing the rating scale, think in terms of your experience. You are to rate the statement on a 5-point scale. Circle the number which you think best describes your degree of agreement with the statement.

1	2	3	4	5
Strongly Disagree		Relatively Neutral		Strongly Agree

1.	The method helped me to look at a sample of classroom teaching as others see this sample.	1	2	3	4	5
2.	The method has encouraged me to work on self-improvement in my teaching.	1	2	3	4	5
3.	The method included information with which I did not agree.	1	2	3	4	5
4.	The method helped me to see teaching successes more clearly.	1	2	3	4	5
5.	The method limited the University supervisors from seeing true teaching ability related to questioning.	1	2	3	4	5
6.	The method helped me to see teaching problems more clearly.	1	2	3	4	5
7.	The method required too much of my time for the benefits I received.	1	2	3	4	5
8.	The method helped to identify good and poor points in teaching.	1	2	3	4	5
9.	The method was a frustrating procedure for me.	1	2	3	4	5

[Appendix D, continued]

10.	The method provided enough instruction and feedback from the University supervisors.	1	2	3	4	5
11.	The method was unsatisfactory for my particular situation.	1	2	3	4	5
12.	The method left me in doubt about what is expected related to questioning.	1	2	3	4	5
13.	The method developed a working relationship between the conference participants.	1	2	3	4	5
14.	The method made maximum use of the student teacher's contribution for improving teaching performance.	1	2	3	4	5
15.	The method results in a superficial evaluation of teaching performance related to questioning.	1	2	3	4	5

APPENDIX E

September, 1969

WORKING DEVICE FOR LESSON PLAN

Student_____ Phase One Rater_____

Directions: For each of the scales, select the number above the statement that best describes the student's plans. Write this number on the score sheet provided. To derive an estimate of your ability in each scale, total the subsection. For overall indication of performance, total the subscores.

Motivation - Introduction

	5	4	3	2	1
1.	Serves to motivate, arouse curiosity, raise questions and problems, gain attention, and/or link with previous learning; experience based		May introduce lesson, but limited effect in arousing curiosity and raising questions		Teacher centered, fails to excite, stimulate or link; narrative in quality; symbol based

---

Statement of Objectives

	1	2	3
2.	Type & level of learning behavior seldom identified	Type or level identified; type & level identified some of the time	Type & level of learning behavior clearly identified consistently
	1	2	3
3.	Content seldom identified clearly and precisely	Content clearly or precisely identified part of the time	Content clearly & precisely identified consistently

---

Selection of Objectives

	1	2	3	4	5	6	7
4.	Objectives too difficult or too simple to induce social, emotional, intellectual and physical development of learners		Some objectives are appropriate to development of learners; some are too difficult and/or too simple				Objectives appropriate to social, emotional, intellectual and physical development of learners

5. Objectives are appropriate to social, technical, and economic settings of learners	7 6	5 4 3 Social, technical, and/or economic settings of learners are given some consideration	2 1 Objectives ignore social, technical, and/or economic settings of learners
6. Identifies learnings which are appropriate to be achieved in school setting, time, space, and facility	5 4	3 2 Identifies learnings which may or may not be appropriate to be a school learning	1 Identifies learnings which are not appropriate to be achieved in the school setting
7. Objectives give evidence of balance of cognitive, affective, and psychomotor learnings as seems appropriate in the learning task	5 4	3 2 Objectives give partial evidence of balance in human learning	1 Objectives do not give evidence of balance in human learning
8. Sub-objectives do not contribute to achievement of the major objectives	1 2	3 4 Some inconsistency among objectives or some contradiction	5 Sub-objectives contribute to the achievement of the major objectives and are noncontradictory within a given segment of plan

Selection of Content

9. Content is inaccurate or inconsistent with what is known in the field. Value statements are not justified	1 2	3 4 5 Most content is factual, but some reflects inaccuracies, is too verbal, or lacks justification	6 7 Content, both subject matter and process, is factual, accurate and consistent with what is known (from research) in the field. Value statements are justified
10. Content is of sufficient complexity to allow pupil learning at the level designated in the objective	5 4	3 2 Some content not of sufficient complexity to allow pupil learning at the level designated in the objective	1 Content complexity does not foster learning at the level designated in the objective

11.	7 6 Content stated in terms of generalizations which reveal the relationship among ideas - adequate detail provided to give meaning to the generalization in subject matter or process	5 4 3 A few generalizations; some relationships shown	2 1 Isolated facts, fragmented ideas, and enumerations

Learning Experiences

12.	1 2 Learning experiences provide for pupil behavior at level other than stated in objective	3 4 Some learning experiences may not allow for pupil to practice behavior of the objective	5 Learning experiences enable pupils to practice behavior indicated in the objective
13.	5 4 Learning experiences are appropriate to developmental levels of pupils	3 2 Some learning experiences are inappropriate for developmental levels of pupils	1 Learning experiences ignore developmental levels of pupils
14.	5 4 Learning experiences reflect use of respected principles of learning	3 2 Learning experiences reflect to some degree use of respected principles of learning	1 Learning experiences do not reflect use of respected principles of learning
15.	1 Learning experiences not stated in terms of pupil activity, content to be focused upon, and teaching materials	2 Some learning experiences not stated in terms of pupil activity, content to be focused upon, and teaching materials	3 Learning experiences stated in terms of pupil activity, content to be focused upon, and teaching materials
16.	5 4 Learning experiences foster pupils' ability to raise questions, summarize and interrelate ideas and procedures into capstone learnings	3 2 Learning experiences foster interrelatedness of ideas and procedures but capstone learnings are infrequent	1 Learning experiences foster learning that is fragmented, unrelated, compartmentalized, and unlikely to lead to concept development

Evaluation

	1	2	3	4	5
17.	Evidences collected do not appear valid or reliable or related to objectives		Some valid, reliable, related evidence is collected		Evidences collected relati to the objectives appear valid and reliable
	1	2	3	4	5
18.	Teacher evaluates pupil learning		Some sharing in evaluation by pupils and teachers		Pupils and teachers share the evaluation of learning
	7 6		5 4 3		2 1
19.	Variety of types and kinds of evaluation devices used		Limited variety of evaluation devices used for learners, situations, and objectives		Use of one or two types of evaluation devices

Summary

	5	4	3	2	1
20.	Identifies significant questions or generalizations appropriate to the desired level and type of learning		Few significant questions or generalizations appropriate to the desired level and type of learning are identified		Summary statements are mer recall and do not encourag students to relate ideas

[Appendix E, continued]

CRITERIA FOR PLANNING - Phase Two and Three

Student_____ Rater_____

Directions: For each of the following scales, select the number above the statement that best describes the student's plan. Write the numbers on a column on a separate sheet of paper as you may wish to total each subsection to give an evidence of your ability in that section. For overall indication of performance, total the subscores. You may also wish to write comments beside your numbers.

	1	2	3	4	5
INTRODUCTION					
1.	Teacher centered; fails to link or relate to students' concerns or interests; narrative in quality, symbol based (relies on printed or verbal words)		May introduce lesson but limited effect in arousing curiosity and raising questions		Serves to motivate, arouse curiosity, raise questions and problems, gain attention, and/or link with previous learning; experience based
OBJECTIVES					
2.	Domain, behavior term and content seldom identified		Domain, behavior term and content clearly identified some of the time		Domain, behavior term and content clearly and always identified
3.	Objectives give no evidence of balance in human learning		Objectives give partial evidence of balance in human learning		Objectives give evidence of balance of cognitive, affective and psychomotor learnings as seems appropriate in the learning task
4.	Objectives too difficult or too simple to induce social, emotional, intellectual and physical development of learners		Some objectives are appropriate to development of learners; some are too difficult and/or too simple		Objectives appropriate to social, emotional, intellectual and physical development of learners
5.	Objectives ignore social, technical and/or economic settings of learners		Social, technical, and/or economic settings of learners are given some consideration		Objectives are appropriate to social, technical, and economic settings of learners
CONTENT					
6.	Complexity of content does not foster learning at the level designated in the objective		Some content not of sufficient complexity to allow pupil learning at level designated in the objective		Content is of sufficient complexity to allow pupil learning at the level designated in the objective

	1	2	3	4	5
7.	Isolated facts, fragmented ideas and enumerations; little potential for development of concepts		A few generalizations; some relationships shown to suggest limited possibility for concept development		Content stated in terms of generalizations which reveal the relationships among ideas. Adequate detail provided to give meaning to the generalization in subject matter or process
8.	Content is inaccurate or inconsistent with what is known in the field. Value statements are not qualified		Most of the content is factual. Some reflects inaccuracies or lacks justification		Content is factual, accurate, consistent with what is known in the field. Value statements are justified
	LEARNING EXPERIENCES				
9.	Irrelevant to behavior and content of objective		Some inconsistency with behavior and content of objective		Consistent with behavior and content of objective
10.	Foster learning that is fragmented, unrelated, compartmentalized; little potential for conceptual development		Foster interrelatedness of ideas and procedures; capstone learning is infrequent		Foster pupils' ability to raise questions, summarize, and interrelate ideas and procedures
11.	Limited in variety Little pupil participation		Some variety. Provided limited opportunity for pupil participation		Provide opportunity for pupil participation in a variety of ways
	EVALUATION				
12.	Purpose, content and/or device is omitted		Purpose, content and/or device may be unclear in statement		Evaluation statement tells teacher's purpose for evaluation, content being evaluated, device or means used
13.	Teacher evaluates pupil learning		Procedures permit some sharing in evaluation process by pupils and teachers		Procedures designed to encourage pupil self-evaluation
	SUMMARY				
14.	Summary statements are mere recall and do not encourage students to relate ideas		Few significant summary questions or generalizations are identified as appropriate to the desired level and type of learning		Significant summary questions or generalizations appropriate to the desired level and type of learning appear in the plan where best serve pupils' needs

APPENDIX F

VERBAL INTERACTION CATEGORY SYSTEM

Teacher Talk

1. Gives information or opinion: presents content or own ideas, explains, orients, asks rhetorical questions. May be short statements or extended lecture.

2. Gives direction: tells pubils to take specific actions; gives orders, commands.

3. Asks question which is:
   (a) cognitive memory: calls for facts or other items of recall. Narrow questions that involve rote memory.
   (b) convergent: calls for analysis or integration of given or remembered data.
   (c) divergent: calls for answers that are creative and imaginative that move in new directions.
   (d) evaluative: calls for matters of judgment, value, and choice. May be broad or narrow. (Categories developed by Callagher and Aschner.)

4. Praises ideas, feeling, or behavior using:
   (a) no reasons
   (b) personal reasons
   (c) rational reasons (Subheadings suggested by work of Marie Hughes.)

5. Accepts ideas, feeling, or behavior by reflecting, clarifying, encouraging, or summarizing.

6. Rejects ideas, behavior, or feeling using:
   (a) no reasons
   (b) personal reasons
   (c) rational reasons

Pupil Talk

7. Responds to teacher: (a) predictably: relatively short replies, usually in response to 3a or 3b. A wrong answer is still predictable (2 and 2 are 5). (b) unpredictably: replies that call for thought and usually follow 3c or 3d.

8. Responds to another pupil: replies occuring during conversation between pupils.

9. Initiates talk to teacher: statements that pupils direct to teacher without solicitation.

10. Initiates talk to another pupil: statements that pupils direct to another pupil which have not been solicited.

[Appendix F, continued]

Other

11. Silence: pauses during a time of classroom conversation.

Z. Confusion: considerable noise that disrupts planned activities. This may accompany other categories or may totally preclude the use of other categories.

EXAMPLES

Teacher Talk

1. "Cotton is used in many infant's clothes because it launders well."

2. "Everyone sit down." "Turn to page 86 in your textbook."

3. (a) "What is the definition of worsted woolen?"
   (b) "What conclusions can you draw from the data on this chart regarding the age for first marriage?"
   (c) "Develop a menu suitable for an elderly person who has diabetes."
   (d) "What do you think about this menu for a children's party?"

4. (a) "Good." "Right." "That's an interesting idea."
   (b) "I like that answer." "I am proud of you."
   (c) "Your menus for Tuesday are good because you have included all of the Basic Four food groups."

5. Pupils are discussing the physical development of the one-year old. P_1 "A one-year old can walk by himself." P_2 "My brother didn't walk until he was fifteen months old." P_3 "My cousin walked at ten months." T. "Physical development in children may vary. We will use the average age at which most children reach the stage of development we are discussing. Therefore, you could say that children usually start walking around one year of age."

6. (a) "Wrong." "No." "That is not right."
   (b) "Joan, I told you to use the Singer machine, not the Necchi." "Is that what I told you to discuss?"
   (c) "Your muffins have tunnels because you stirred them too long."

Pupil Talk

7. (a) T. "Name the four natural fibers." P. "Cotton, linen, wool and silk."
   (b) T. "Please give some reasons to support your opinion that girls who are thirteen are old enough to date." P_1 "I'm old enough to baby-sit so I'm old enough to date." P_2 "I think we are old enough to have dates for school activities like dances and ballgames."

[Appendix F, continued]

8. P_1 "Jane, would you help me straighten my material? It's off again."
   P_2 "Yes, if you will wait until I have finished cutting out this sleeve."

9. "Miss Smith, it says in this magazine that breakfast is the most important meal you eat. I'm never hungry in the morning so why should I eat breakfast?"

10. T. "What importance do you put on a couple's economic status as a factor in setting a wedding date?" P_1 "If they both have good jobs, I don't see why the couple should have to wait until they have money saved." P_2 "I don't agree, Jane. What would happen if one or the other got sick or lost their job?"

Other

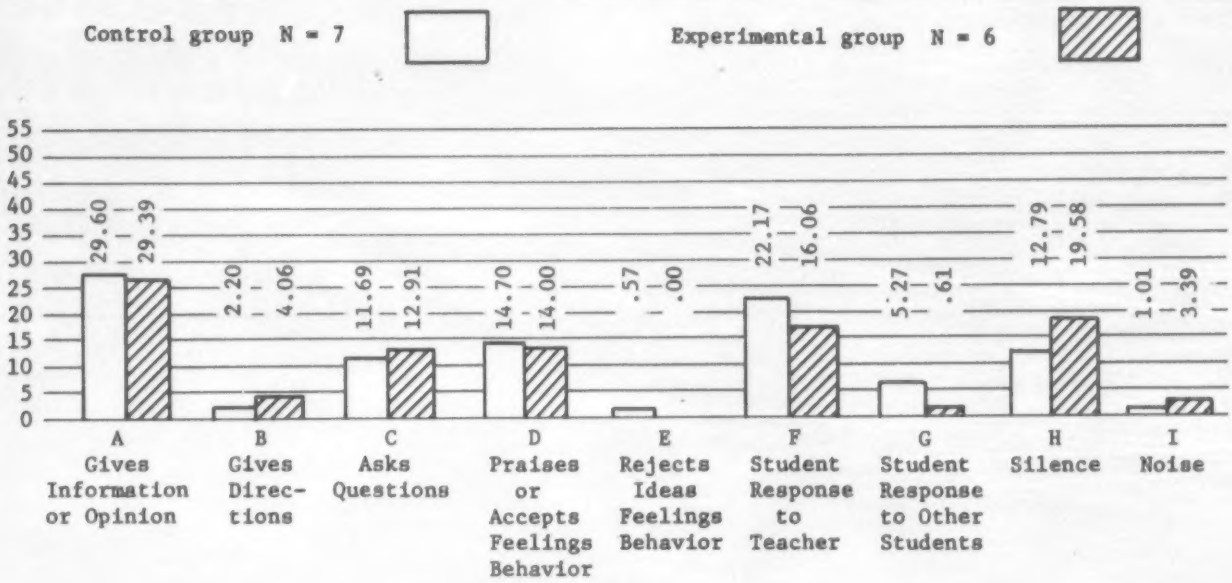
11.

Z.

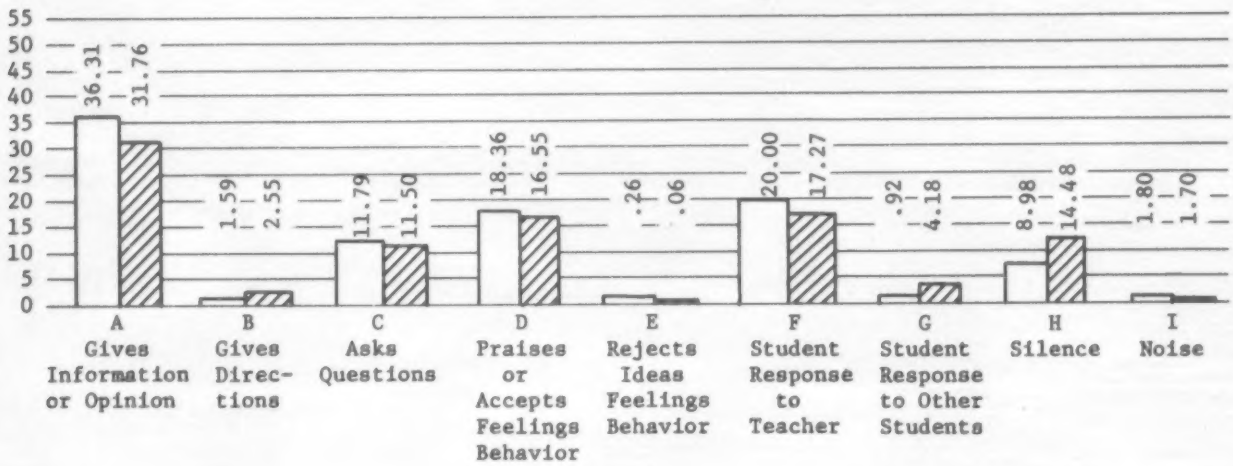
APPENDIX G

VERBAL INTERACTION PATTERNS IN CLASSROOMS OF HOME ECONOMICS STUDENT TEACHERS: PHASE I

Pre-treatment



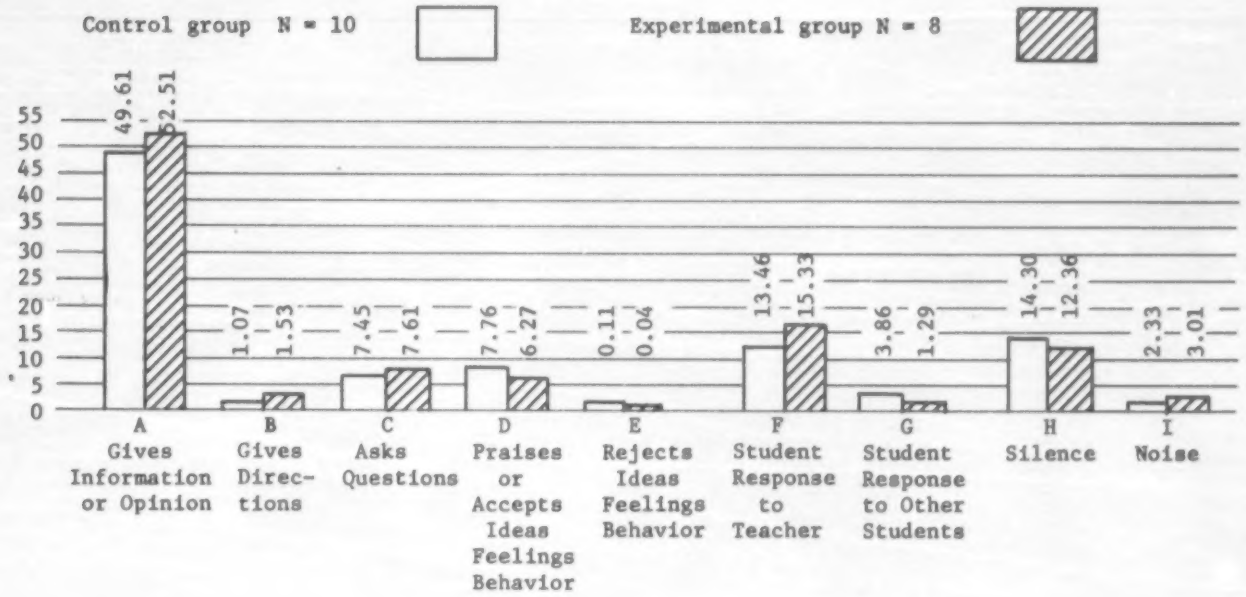
Post-treatment



(Appendix G, continued)

VERBAL INTERACTION PATTERNS IN CLASSROOMS OF HOME ECONOMICS STUDENT TEACHERS: PHASE II

Pre-treatment



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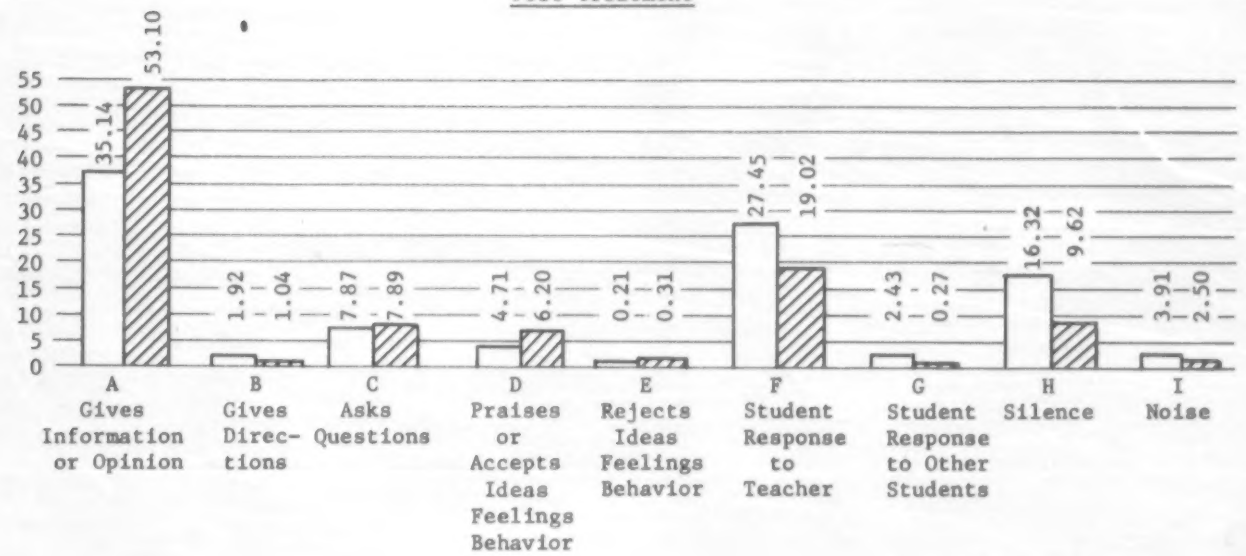
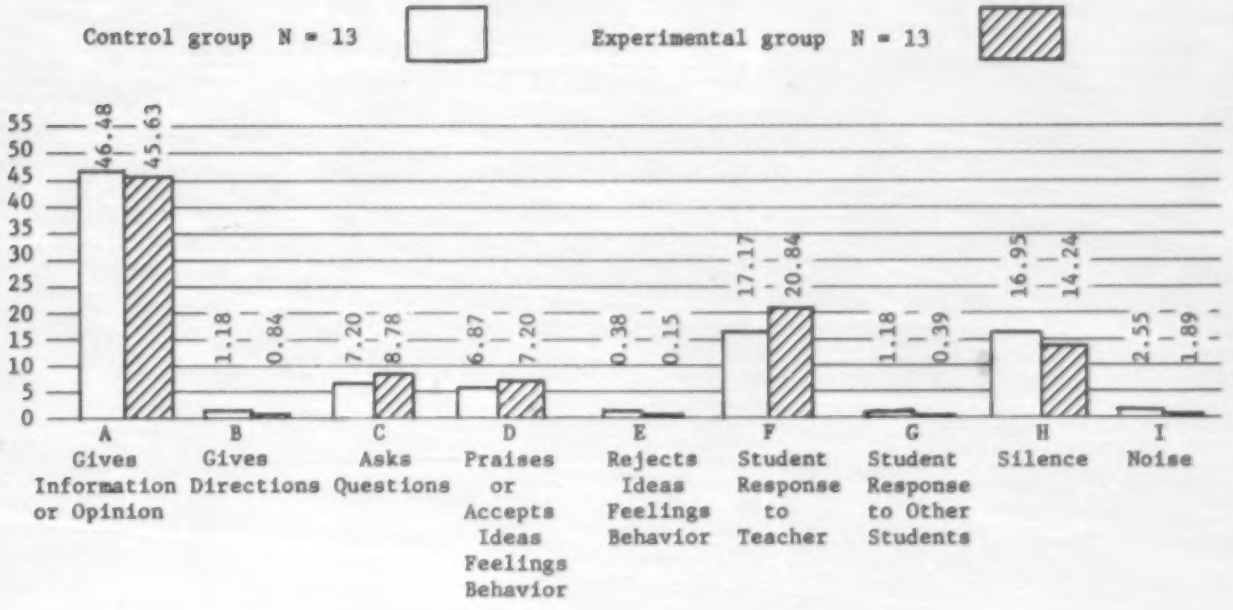


(Appendix G, continued)

VERBAL INTERACTION PATTERNS IN CLASSROOMS OF HOME ECONOMICS STUDENT TEACHERS: PHASE III

Pre-treatment



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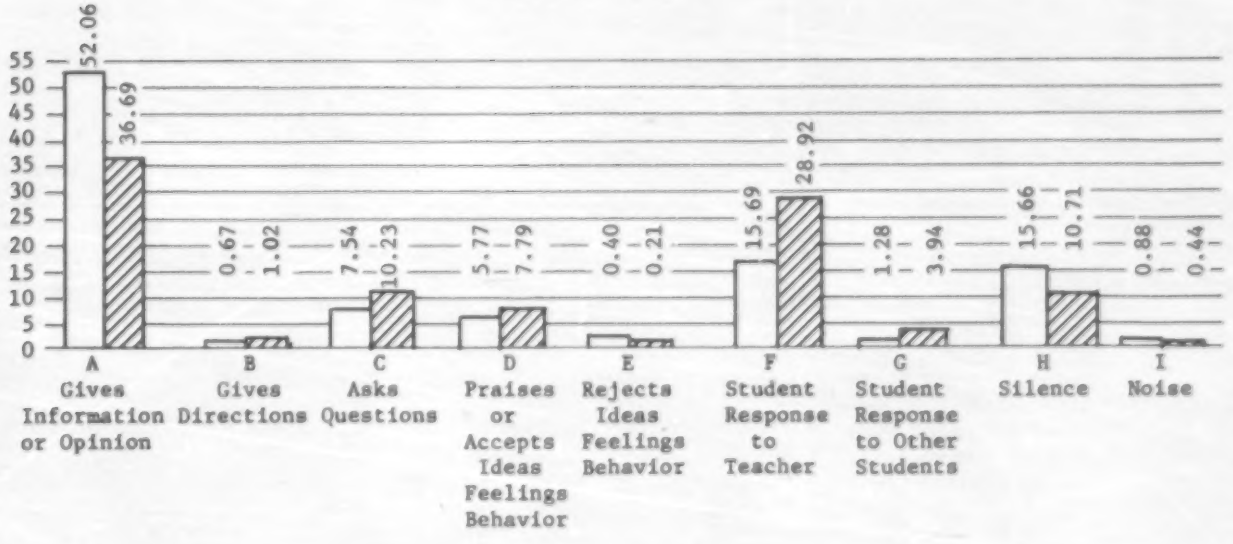

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* Wheeler, D. N. Technical Report No. 6: Reviewing the Literature: A Handbook for the Vocational Researcher. June 1971.

* [Several editions of a newsletter, News and Reviews, are also available.]

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